

Work Order ID 112380

February-13-14 1:07:35 PM

112380

Page 1

Item ID: D2803-1 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Bracket
 Start Date: 30/01/2014 Start Qty: 12.00 ***12*** Cust Item ID:
 Required Date: 30/01/2014 Req'd Qty: 12.00 ***12*** Customer:
 Reference:

Approvals: Process Plan: *MD* Date: 1402-13 Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2803	Rev B								

100
100
 Waterjet
 FLOW CNC Waterjet
 FLOW WATER JET
 Memo
 1-Cut as per FILE D2803-1_blank
 Dwg Rev: B
 Prog Rev: B
 ISSUE PO P023011
 POSSIBLE SUPPLIER: LOEBSACK WATERJET

cmg 2/12/14

102
102
 Packaging
 Packaging
 Receive & Inspect for Damage & Mat'l Certs
 Memo

Pg 10/9 (12)

DQA:

Date: 14/06/24



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: ☒

Date: 14/6/12

Work Order update only ☐

Work Order: <u>112380</u> Part No. <u>D2803-1</u> NCR No. <u>14-3953</u>	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input checked="" type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input checked="" type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input checked="" type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input checked="" type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling	14/6/4	110	1	Part lifted during machining. Thickness at lower end (0.125) tapers from nominal to 0.015 below tolerance.	DAS 12 9-89 14/6/4	Acceptable. Affected area is lower 2" near attachment hole. Area not under high bending stress per SZ-P447-1. Thin area near edge and end not likely to buckle.	DAS 12 9-89 14/6/4	DAS 27 9-89 14/6/10	DAS 27 9-89 14/6/10
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input checked="" type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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Work Order ID 112380

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112380

Page 2

Item ID: D2803-1 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Bracket
Start Date: 30/01/2014 Start Qty: 12.00 ***12*** Cust Item ID:
Required Date: 30/01/2014 Req'd Qty: 12.00 ***12*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
105	QC6- Inspect dimensions to drawing	0.00				12			
105									
QC	Memo	0.00							
Quality Control									
108		0.00							
108									
Small Fab	Memo	0.00							
Small Fab	DEBURR A/R								
110		0.00							
110	HAAS CNC VERTICAL MACHINING #1								
HAAS 1	Memo	0.00							
HAAS CNC vertical machine #1	Machine as per folio FA102								2/14-6-3

①

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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Page 3

Stop *NR2*

**Insp.
Stamp**

Quality Control

Quality Control

Hand Finishing

D.A 14/06/05

12

 ϕ

DAS
08
9-89

10

7461469

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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Work Order ID 112380

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112380

Page 4

Item ID: D2803-1 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Bracket
 Start Date: 30/01/2014 Start Qty: 12.00 *12* Cust Item ID:
 Required Date: 30/01/2014 Req'd Qty: 12.00 *12* Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150 *150* QC Quality Control	QC7-Inspect Chemical Conversion Coat Memo	0.00 0.00				12x			14/06/09 DAS 36 9-89
160 *160* Packaging Packaging	Identify as per dwg & Stock Location: <u>G-A</u> Memo	0.00 0.00				12x			14/06/09 DAS 36 9-89
170 *170* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00							MLJ 14-06-10 14-6-9

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other _____ _____ _____
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Picklist Print

February-13-14 1:07:41 PM

Page 1

Work Order ID: 112380

112380

Parent Item: D2803-1

D2803-1

Parent Item Name: Bracket

Start Date: 30/01/2014

Required Date: 30/01/2014

Start Qty: 12.00

Required Qty: 12.00

Comments:

IPP A00.11.06New IssueEC

IPP Rev:B Blanks Now Cut on Waterjet 06-06-14 JLM

IPP Rev:C Removed Tumbling 08-09-10 JLM Verified By:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2803-1P

Purchased

No

Each

0.0000

12

D2803-1P

Bracket

Pay 10/9 (12)

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

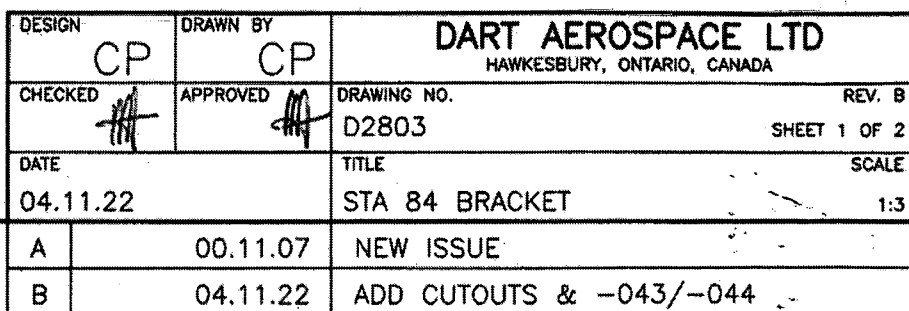
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>
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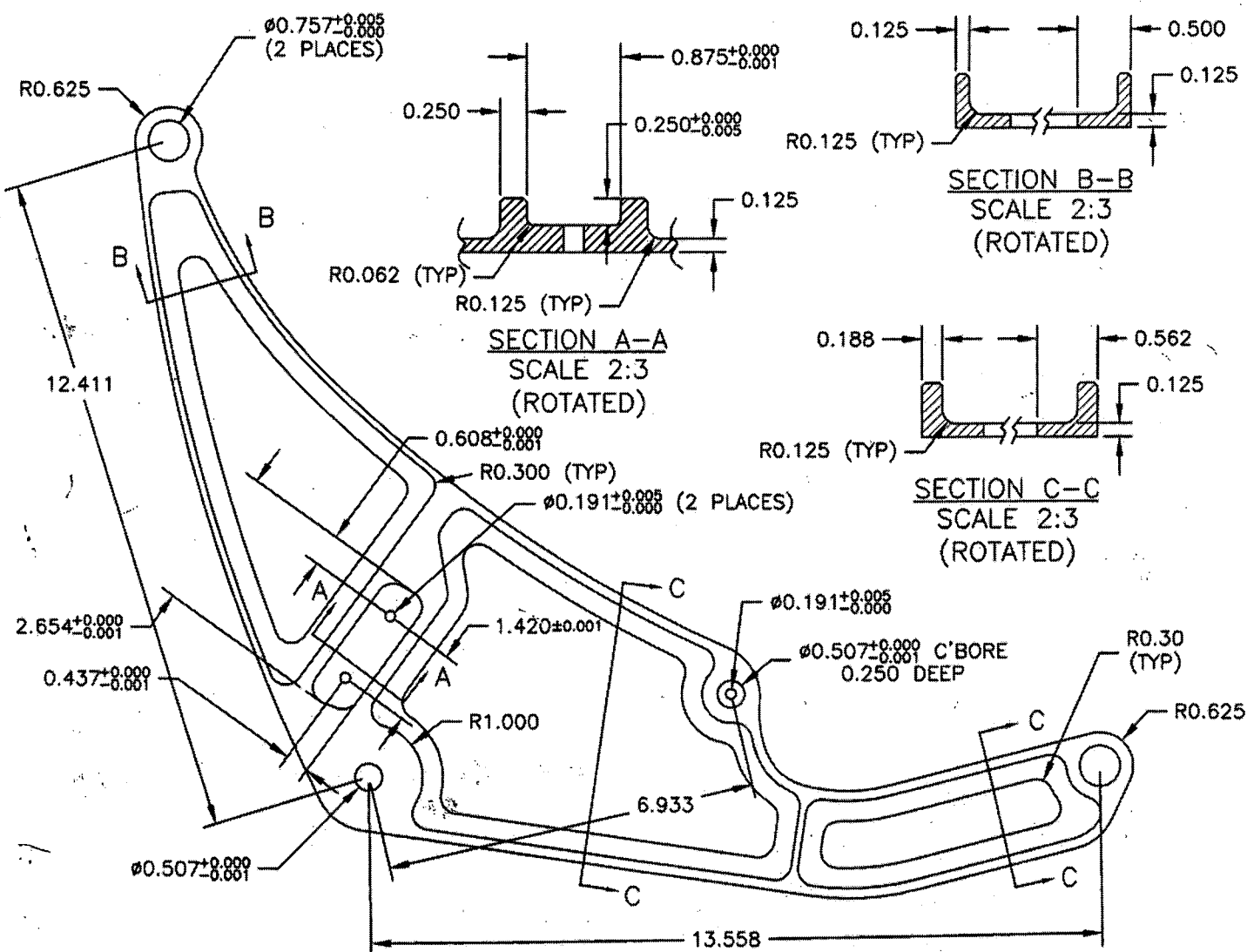
Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
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Training									
Transport									
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FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other _____ _____ _____
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05.03.11



1) MACHINE PER DRAWING FILE "D2803.SLDPRT"
2) MATERIAL: 6061-T6 (QQ-A-200/8) OR (QQ-A-250/11) 0.500 THICK
3) DEBURR TO LEAVE R0.030 - 0.063 ON ALL EDGES
4) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

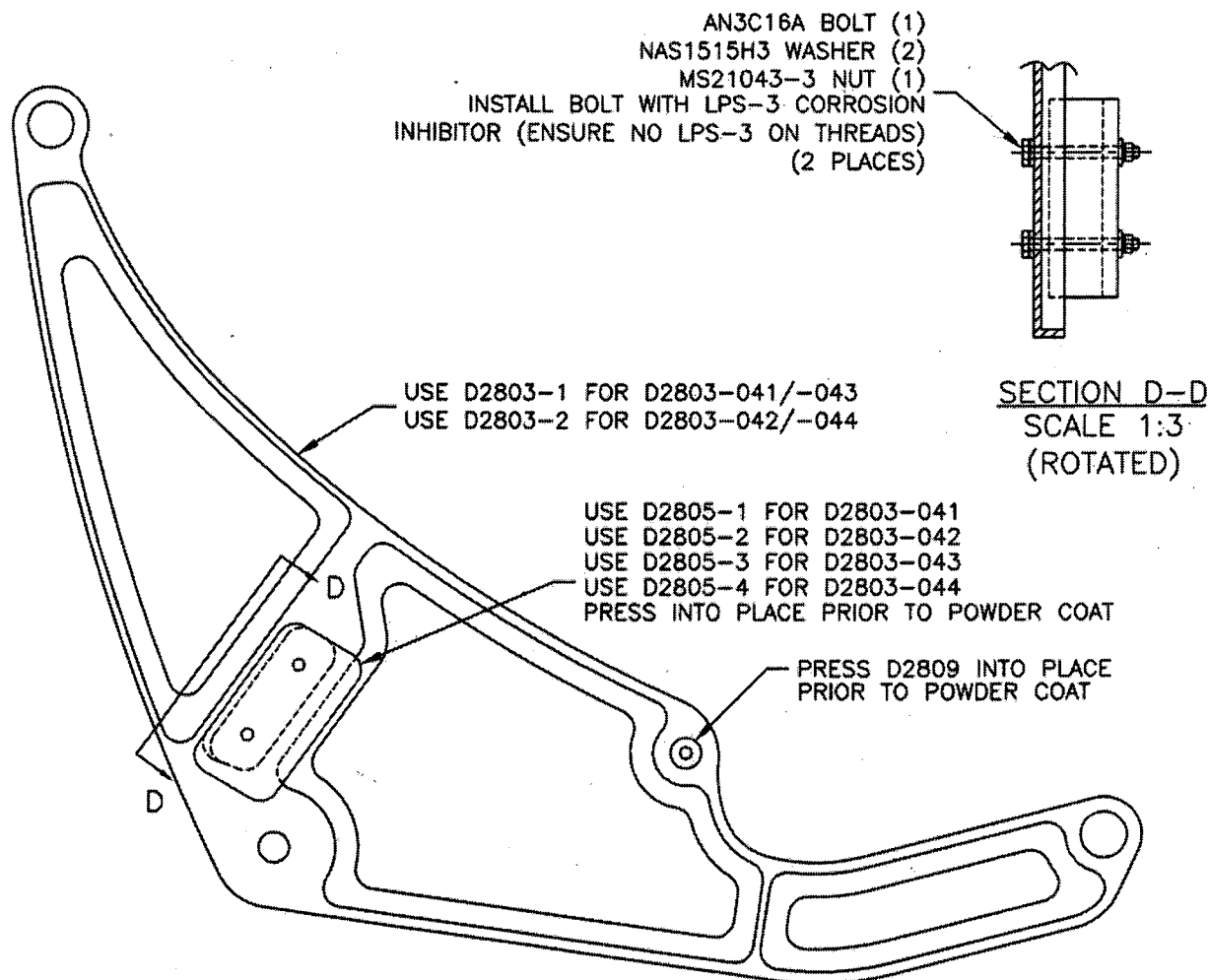
112380 MC
X 1401-31

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DART

DESIGN CP	DRAWN BY CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D2803	REV. B SHEET 2 OF 2
DATE 04.11.22		TITLE STA 84 BRACKET	SCALE 1:3

**RELEASED**

05-03.11 [Signature]

D2803-041/-043 BRACKET ASS'Y (SHOWN).
D2803-042/-044 BRACKET ASS'Y (OPPOSITE)

6) FINISH: POWDER COAT ASSEMBLY GLOSS WHITE (4.3.5.1) OR GREY SANDTEX (4.3.5.6)
OR BLACK SANDTEX (4.3.5.7) OR GREEN SANDTEX (4.3.5.8) PER DART QSI 005 4.3

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Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO23011

Purchase Order Date 2/14/2014

PO Print Date 2/14/2014

Page Number 2 of 9

Order From : VC-LWC001
LOEBSACK WATERJET CANADA LTD.
55 NORTHFIELD DR. E.
P.O.BOX 339

WATERLOO, ONTARIO N2K 3T6

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone

Ship To Contact

Ship To Phone

Ship Via: FedEx PI collect

Ship Acct:

Buyer

Customer POID

Customer Tax #

Terms

Currency

FOB

Michael Gregoire

10127-2607

Net 30

CAD

FCA - (Free Carrier)

Line Total: \$751.20

5	D2804-1P	Bracket	3/28/2014	12.00	\$62.60	\$751.20
			Yes	Each		
			3/28/2014			
	Manufacture as per drawing D2804 rev.c					
	B111518					

Line Total: \$751.20

6	D2803-1P	Bracket	3/28/2014	12.00	\$91.85	\$1,102.20
			Yes	Each		
			3/28/2014			
	Manufacture as per drawing D2803 rev.B					
	B112380					

Line Total: \$1,102.20

7	D3319-3P	Full-Length Wearplate	3/28/2014	20.00	\$19.25	\$385.00
			Yes	Each		
			3/28/2014			
	Manufacture as per drawing D3319 rev.c					
	B112470					

PO Instructions: PROCUREMENT QUALITY CLAUSES

A005 RIGHT OF ENTRY

A008 FIRST ARTICLE INSPECTION (FAI) BY SELLER, (DOCUMENTATION SENT TO DART AEROSPACE)

A012 CHEMICAL AND PHYSICAL TEST REPORTS

A016 PERSONNEL QUALIFICATION

A017 RAW MATERIAL IDENTIFICATION (AS APPLICABLE)

A026 CERTIFICATION OF MATERIAL CONFORMANCE

A042 DART NOTIFICATION BY SUPPLIER



55 Northfield Dr., E., Box 339
Waterloo, On. N2K 3T6
(519)570-6590
F. (519)893-4252

Certificate of Compliance

Sold To: DART Aerospace

Purchase Order Nu ID PO23011

Item	Quantity	Part Number	Revision	Description	Mtl. / Thk.	HT Number
6(19)	12	D2803-1	b	BRACKET	6061-T6 / 0.50"	11/12/168D0
23(20)	12	D2803-2	b	BRACKET	6061-T6 / 0.50"	11/12/168D0
5(18)	12	D2804-1	c	BRACKET	6061-T6 / 0.50"	11/12/168D0
4(17)	12	D2804-2	c	BRACKET	6061-T6 / 0.50"	11/12/168D0
10(9)	10	D4093-3	d	BRACKET	6061-T6 / 0.750"	22/11/036D6
20(6)	30	D3065-5	b	STEP LEG	5052-H32 / 0.080"	3C529#2
24(24)	24	D2561P	b	LUG	6061T6 / 0.25"	08/11/010D6
3(18)	150	D2838	c	CLAMP	304 SS / 0.063"	A1303988
17(16)	60	D2519	d	CLAMP	304 SS / 0.063"	A1303988
2(17)	40	D3414-1F	c	CLAMP	304 SS / 0.100"	500400
15(14)	60	D4149-1	c	CROSSTUBE LUG	304 SS / 0.120"	350420
12(11)	40	D4150-3	b	ARM PLATE	304 SS / 0.120"	350420
13(12)	40	D4151-1	c	L HARDPOINT PL	304 SS / 0.120"	350420
14(13)	40	D4515-3	c	U HARDPOINT PL	304 SS / 0.120"	350420
16(15)	40	D4148-1	c	CROSSTUBE LUG	304 SS / 0.120"	350420

This is to certify that the whole of the supplies detailed hereon has been inspected, tested, packed, and unless otherwise stated, conform in all respects with the requirements of the contract or order.

Name: Derek Loebsack

Title: President

Sign:

Dated:

05-01-14

THYSSENKRUPP MATERIALS NA

J.M. WOODTURNING LTD

ALUMINUM PLATE 6061-T651
.50" THICK X 48.5000" X 96.5000"
PART NO.

PO/Rel VERB DEREK

We certify that this is a true copy of the report
furnished by the producer of the metal, or data
resulting from tests made in approved labs.

Certificate of Mill Test Results

BL PEC-874683-002

29Apr14

Pg 1/1

Signed by: _____

TEST CERTIFICATE

Certificate No : 1312LB4121

BUYER: THYSSENKRUPP MATERIALS NA 2821 LANGSTAFF ROAD CONCORD ONTARIO	Shipping File No:	UR47709	Product: PLATE HEAT TREATED UNISHED, 6061-T651 0.5" (+0.0228 -0) x 48.5" x 96.5"	
	Lot No :	11/12/16800		
	P/List No :	2/1324581		
	Release No :	RE120362		
	Cust Order No :	PEC-253468	Certificate No :	1312LB4121
	HULAMIN Order No :	343253E	Cust Ref/Part No:	
	Item Part :	1/1	Combined P/List No :	R145160

Case No : PHJ115,PHJ111

MECHANICAL TEST RESULTS

Lot No.	Cast No.	Metal Id	Alloy	Spec No	Mechanical Properties								
					Yield Strength (Ksi)	UTS (Ksi)	Elongation A50 (%)	Earing (%)	TestDate	Gauge Length (inches)	Bend Test	Actual Gauge (inches)	
Spec				Min	35.1	42.0	9						0.5
				Max									0.523
11/12/16800	VTSF	13-706800889	6061	1	42.2	48.1	14		31/12/13	2			0.512
				2	42.2	48.1	14		31/12/13	2			0.512

CHEMICAL COMPOSITION

	Cast No.	Alloy	Si (%)	Fe (%)	Cu (%)	Mn (%)	Mg (%)	Cr (%)	Zn (%)	Ti (%)	Each (%)	Total (%)	Alt (%)
Min			0.40		0.15		0.8	0.04					
Max			0.6	0.7	0.40	0.15	1.2	0.36	0.25	0.15	0.05	0.15	
	VTSF	6061	0.58	0.39	0.27	0.13	0.95	0.17	0.01	0.011			87.35

CONFORMS TO: ASME SB-208 ASTM B209/TD AMS 6027H AMS-QQA-160/11, OR 1597

For purposes of determining conformance with these specifications, an observed value or a calculated value shall be rounded "to the nearest unit" in the last right-hand digit used in expressing the specification limit, in accordance with the rounding method of ASTM Practice E29, for Using Significant Digits in Test Data of Normal Distribution.

WE HEREBY CERTIFY, THAT THE MATERIAL DESCRIBED ABOVE HAS BEEN TESTED AND COMPLIES WITH THE TERMS OF THE ORDER CONTRACT. THE INSPECTION RESULTS INDICATED IN THE CHEMICAL COMPOSITION HAVE BEEN OBTAINED FROM CAST ANALYSIS.

Dr. A. Phishon (HEAD OF CHEMICAL TESTING)

Ver 2.6.4

V. Maniram (HEAD OF PHYSICAL TESTING)

Printed Date : 12 Feb 2014

Milled, cast, rolled and processed in South Africa - meets Requirements of NORS and H&C

1 of 1

DART AEROSPACE LTD		Work Order: 112380
Description: Bracket		Part Number: D2803-1
Inspection Dwg: D2803	Rev: B	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.757	+0.005/-0.000	.762	/		Vern	SL-10
Ø0.191	+0.005/-0.000	.192	/		-	
Ø0.507	+0.000/-0.001	.506	/		g-pin	
13.558	+/-0.010	13.558	/		HTG	
Ø0.507	+0.000/-0.001	.506	/		g-pin	
12.411	+/-0.010	12.411	/		HTG	
2.654	+0.000/-0.001	2.653	/		T-Gt mic	
0.437	+0.000/-0.001	.4365	/			
1.420	+/-0.001	1.420	/			
6.933	+/-0.010	6.933	/		Vern	CNC-ØØ
0.250	+/-0.010	.250	/			
0.875	+0.000/-0.001	.8741	/		g-pin	
0.250	+0.000/-0.005	.246	/		HTG	
0.125	+/-0.010	.126	/		Vern	SL-10
0.125	+/-0.010	.125	/			
0.125	+/-0.010	.126	/			
0.125	+/-0.010	.125	/			
0.500	+/-0.010	.499	/			
0.562	+/-0.010	.561	/			
0.188	+/-0.010	.188	/			

Measured by: JL	Audited by: D.A. DAS 08	Prototype Approval:	N/A
Date: 14-6-03	Date: 14/06/05 9-89	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	05.04.25	New Issue	KJ/JLM	
B	07.07.18	12.625 dimension removed	KJ/JLM	